

# Analysis and Design Environment for Large Scale System Models and Collaborative Model Development, Phase II

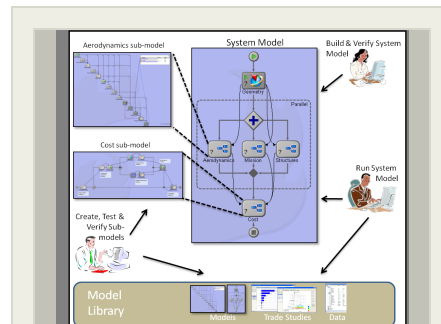
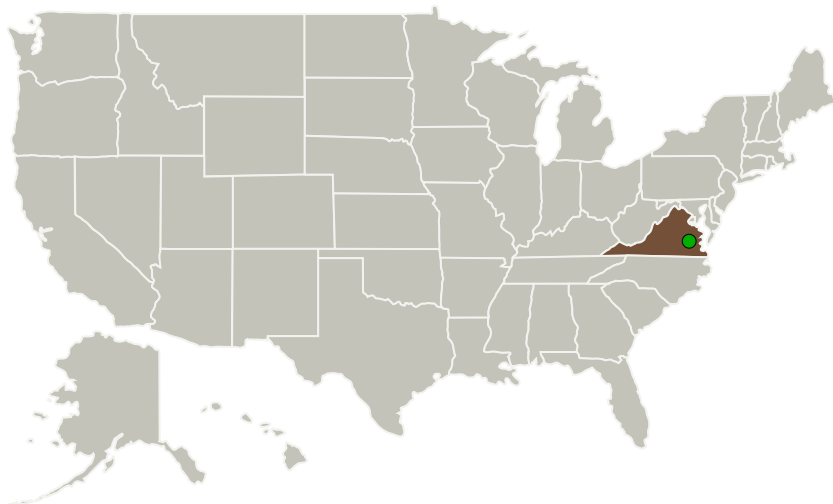
Completed Technology Project (2012 - 2014)



## Project Introduction

As NASA modeling efforts grow more complex and more distributed among many working groups, new tools and technologies are required to integrate their efforts effectively. This project will build on Phoenix Integration's current product suite (ModelCenter, Analysis Server, and AnalysisLibrary) to create a collaborative modeling and execution environment for large system models. The project will involve many interrelated elements: 1) The use of reference components, which are pointers to sub-models that reside elsewhere, are managed independently, and are updated automatically in a master model, 2) The use of a model library such that collaborators can share their efforts in a centralized network-based repository, 3) An execution manager that can distribute and parallelize runs efficiently among several available compute resources, 4) The separation of models, data, and links such that they can be managed independently and reused effectively, 5) The simplification of model building efforts by providing debugging and diff tools to developers much like those that exist in the software industry, 6) User interface features that make model building easier, such as quick validation of model correctness, the ability to create sub-models from assemblies, etc. These elements will be developed with and tested against real modeling efforts taking place at NASA Langley.

## Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Phoenix Integration	Lead Organization	Industry	Blacksburg, Virginia
● Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

## Primary U.S. Work Locations

Virginia

## Project Transitions

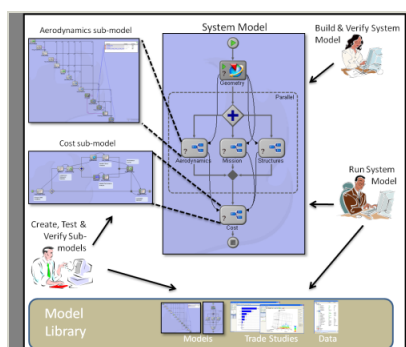
▶ **April 2012:** Project Start

✓ **October 2014:** Closed out

### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/137376>)

## Images



### Project Image

Analysis and Design Environment for Large Scale System Models and Collaborative Model Development (<https://techport.nasa.gov/image/129212>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

Phoenix Integration

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

### Principal Investigator:

Peter Menegay

### Co-Investigator:

Peter Menegay

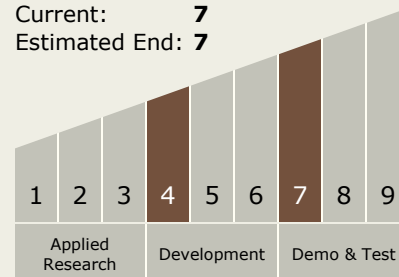
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## Technology Maturity (TRL)

Start: **4**  
Current: **7**  
Estimated End: **7**



## Technology Areas

### Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - └ TX11.4 Information Processing
    - └ TX11.4.4 Collaborative Science and Engineering

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System